

**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Boris Tsirlin	Examiner:	Dao, Minh D
Serial No.:	10/604,996	Art Unit:	2682
Filed:	8/29/2003		
For:	Spatially Selective UHF Near Field Microstrip Coupler Device and RFID Systems Using Device		
Docket Number:	3022		
Confirmation No.:	1995		

**37 CFR 1.132 AFFIDAVIT**

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

August 2, 2006

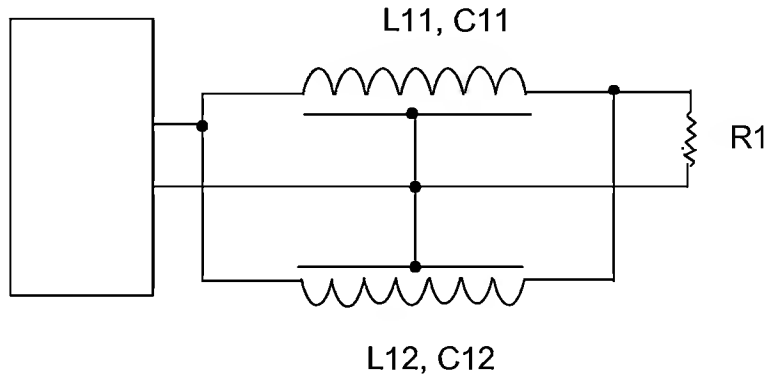
Sir:

This affidavit is filed in support of the above referenced patent application.

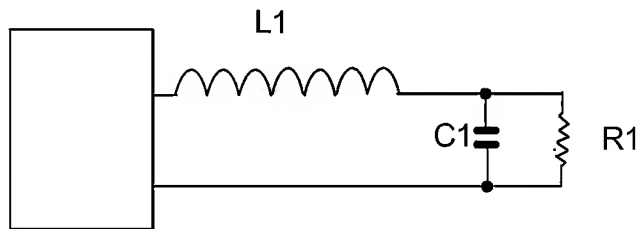
The undersigned affiant, Boris Tsirlin, hereby deposes and says:

1. I am over the age of eighteen, suffer no legal disabilities, have personal knowledge of the facts set forth below, and am competent to testify.
2. I am employed as a Senior Research Engineer by Zebra Technologies Corporation. As part of my job responsibilities, I design couplers for use with RFID transceivers and or transponders. I have worked with Zebra Technologies Corporation for 7.5 years.
3. I am one of the inventors of the above referenced patent application No. 10/604,996.
4. I have reviewed the references cited by the Examiner in the Official Action dated May 24, 2006 for the above referenced patent application. Specifically, US Patent Application Publication No. 2004/0195319 "*Forster*".
5. *Forster* does not describe or show in any figure an equivalent circuit to a near field coupler according to the invention.

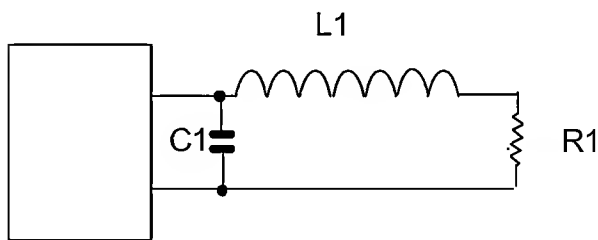
6. According to the present invention, the use of one or more microstrip lines over a ground plane creates the following radio frequency electrical circuit, shown here for demonstration purposes with only two parallel lines:



Here the capacitance C11 is distributed across the inductance L11 and similarly C12 over L12. Resistance R1 is specifically selected to be an unmatched load. For comparison with *Forster*, a simplified equivalent electrical circuit would be either of:



or



Neither of these circuit configurations are disclosed or suggested by *Forster*.

7. The Examiner cites *Forster* at paragraph 116 as having a terminating resistor selected not to match a characteristic impedance of the plurality of lines. Paragraph 116 is the only teaching within *Forster* with respect to selecting a value of the terminating resistor or load. Paragraph 116 specifically states that the two resistors "have a resistance twice that of the line impedance, giving a parallel equivalence across each of the resistors and the line impedance". One skilled in the art will recognize that the plain meaning of paragraph 116 and the associated figure 22 is that two resistors are applied between the line 404 and ground, which together form the equivalent circuit of a common resistor specifically selected to match the line impedance.

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6. Forster, paragraph 116 refers only to the embodiment of Figure 22, which does not include a plurality of parallel lines. Only a single line 404 is disclosed, spaced away from closely spaced dual ground surfaces 408 and 410.

Boris Y. Tsirlin  
Boris Tsirlin

Sworn and subscribed before me this  
the 2<sup>nd</sup> day of August, 2008

Judith I. Rothstein  
Notary Public  
My Commission expires 11/24/10

